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Jean-Louis GUERET

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For: A PACKAGING AND APPLICATOR DEVICE

SUBMISSION OF TRANSLATION OF PROVISIONAL APPLICATION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In accordance with 37 CFR 1.78 (a)(5), attached is a translation of Provisional Application No. 60/459,623 filed on April 3, 2003. Upon information and belief, the translation is an accurate English translation of the provisional application as filed.

Respectfully submitted,

William P. Berridge
Registration No. 30,024

Klifton L. Kime
Registration No. 42,733

WPB:KLK/kzb

Attached:
Translation of Provisional Application

Date: June 3, 2004

OLIFF & BERRIDGE, PLC
P.O. Box 19928
Alexandria, Virginia 22320
Telephone: (703) 836-6400

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A PACKAGING AND APPLICATOR DEVICE

The present invention relates to packaging and applicator devices for cosmetics, including care products, and more particularly but not exclusively those that are intended for applying varnish to nails.

The nail varnish flasks that are to be found on the market present a variety of capacities, usually lying in the range 7 milliliters (ml) to 14 ml. The associated applicators comprise a stem with a brush at one end and a closure cap having a threaded portion.

For flasks of relatively large capacity, e.g. 12 ml or more, the height of the flask body makes it possible to use a stem that is relatively long. In contrast, for flasks of small capacity, the height of the flask body is smaller, so the stem needs to be shorter, or else the length of the bristles of the brush needs to be shorter, which would lead to a loss of flexibility and of quality in application, or else the length of the neck needs to be increased, which can degrade appearance.

It is desirable to have both bristles that are relatively long and a visible length of stem that is not too short in order to make application easier.

The invention seeks in particular to satisfy this need.

The invention achieves this by means of a packaging and applicator device comprising:

- a flask presenting a threaded neck;
 - an applicator comprising:
 - a stem;
 - an applicator element disposed at a first end of the stem;
 - a closure cap supporting the stem at a second end opposite from the first, said closure cap including a threaded portion arranged to screw onto the neck;
- which device, in a first aspect of the invention, is characterizable by the fact that the closure cap includes a ring releasably connected to the threaded portion and

arranged to be capable of remaining secured to the neck during removal of the applicator.

By means of the invention, it is possible to benefit from a visible length of stem plus applicator element that is relatively large, but without that harming the appearance of the flask, because of the ring that is present at the base of the neck. In addition, the ring can be put into place in a manner that is relatively easy and inexpensive after the flask has been filled.

It is also possible to make the ring and the threaded portion in such a manner as to give the impression, when the applicator is in place on the flask, of a closure cap that is made as a single piece, which can be favorable in terms of appearance.

The term "threaded portion" should be understood broadly as corresponding to the portion of the closure cap that includes at least one thread, which thread may be implemented, where appropriate, on an insert fixed within an outer cap. In which case the ring may be releasably connected to the insert or to the outer cap.

The ring may optionally include a thread.

In a particular embodiment, the ring presents at least one first portion in relief enabling it to be snap-fastened onto at least one second portion in relief formed on the neck. This second portion in relief may comprise, for example, an annular bead, and the first portion in relief may comprise an annular bead or teeth projecting from the radially inner surface of the ring.

The ring may also present at least one portion in relief arranged to retain the ring on the neck by friction. In particular, the ring may present splines on its inner surface.

The ring may advantageously be made at least in part by molding a plastics material with the threaded portion, in particular with the outer cap when the threaded portion comprises an insert and an outer cap. The ring

may be connected to the threaded portion by breakable bridges of material.

The ring may also be disposed on the threaded portion, being fitted thereto, with the threaded portion and the ring being made in different molds, for example. By way of example, the ring may present a portion in relief enabling it to co-operate by engaging mutually with the threaded portion. The ring thus need not be connected to the threaded portion by breakable bridges of material.

The ring and the threaded portion may also be connected to each other by other fastening means.

The neck may present at least one first anti-rotation portion in relief and the ring may present at least one second anti-rotation portion in relief arranged to co-operate with the first portion in relief so as to prevent the ring from turning relative to the neck while the closure cap is being unscrewed to separate the threaded portion from the ring.

This first portion in relief made on the flask may be arranged to allow the second portion in relief to go past it on initial tightening of the closure cap onto the flask. At least one of the first and second portions in relief may include a ramp making it easier for them to move past each other.

The ring may be prevented from turning on the neck by the ring being clamped onto the neck, in particular when the ring presents splines on its inside surface.

At its base, the neck may present a surface that is cylindrical or tapered that flares towards the flask body, on which base the ring can be brought to bear with a degree of clamping force.

The ring may be decorated.

The flask may be made in a variety of shapes, and in particular it may have a shoulder at the base of the neck.

The flask may be made of glass or of plastics material, and in particular it may be made of transparent material.

5 The content of the flask may be less than or equal to 10 ml, in particular less than or equal to 8 ml, e.g. lying in the range about 7 ml to about 5 ml.

The visible length of the stem and the applicator element may be greater than or equal to 25 millimeters (mm), for example. When the applicator element is a
10 brush, the visible length of the free portion of the bristles may be greater than or equal to 12 mm, for example.

By way of example, the flask may contain a substance for application to the nails, in particular a nail
15 varnish. The flask may also contain a substance for application to the face, in particular to the lips. In which case, the flask may include a wiper member, in particular.

The applicator element may be flocked, in particular
20 when it is for application on the skin or the lips.

The length of the stem may be substantially equal to the height of the neck, with the length of the stem being equal to the height of the neck to within 30%, for example.

25 The length of the applicator element may be substantially equal to the height of the flask body on which the neck is connected; the length of the applicator element may thus be equal to the height of the body to within 30%, for example.

30 The invention also provides a method of manufacturing a packaging and applicator device, the method comprising the following steps:

- screwing onto a flask having a threaded neck an applicator comprising:

- 35
- a stem;
 - an applicator element disposed at a first end of the stem;

- a closure cap to which the stem is secured at a second end opposite from the first, said closure cap presenting a threaded portion arranged to be screwed onto the neck, the closure cap including at its base a ring
5 releasably connected to the threaded portion, the neck and the ring presenting shapes arranged to co-operate so as to retain the ring on the neck when the threaded portion is unscrewed, at the time of use.

The neck and the ring may co-operate in particular
10 by snap-fastening or by friction.

The invention also provides a method of manufacturing a packaging and applicator device, the method comprising the following steps:

- screwing onto a flask presenting a threaded neck a
15 threaded insert to which the applicator element is secured; and

- fitting an outer cap on the insert, the outer cap being connected releasably to a ring, the outer cap and the ring remaining secured to each other when the insert
20 is unscrewed, the neck and the ring presenting shapes arranged to co-operate so as to retain the ring on the neck when the insert is unscrewed.

The invention can be better understood on reading the following detailed description of non-limiting
25 embodiments of the invention and on examining the accompanying drawings, in which:

- Figure 1 is a diagrammatic elevation view of an example of a packaging and applicator device made in accordance with the invention;

30 - Figure 2 is a view analogous to Figure 1, showing the device during initial unscrewing of the closure cap;

- Figure 3 is a view analogous to Figure 1, showing the applicator fully withdrawn from the flask;

- Figure 4 shows the flask in isolation without the
35 ring or the remainder of the closure cap;

- Figure 5 is a diagrammatic axial section of the Figure 3 flask, provided with the ring;

- Figure 6 is a diagrammatic and fragmentary axial section of the closure cap of the device of Figures 1 to 3;

5 - Figures 7 and 8 are diagrammatic and fragmentary axial sections showing various embodiments of the closure cap;

- Figure 9 is a diagrammatic exploded view showing another embodiment of the invention;

10 - Figure 10 shows the Figure 9 device after the insert has been screwed onto the neck of the flask;

- Figure 11 shows the Figure 10 device after the outer cap and the ring have been put into place;

- Figure 12 shows the Figure 11 device after the applicator has been withdrawn;

15 - Figure 13 is a diagram showing a variant embodiment of the flask in isolation;

- Figure 14 shows an applicator including an applicator element that is flocked;

20 - Figure 15 is a diagrammatic and fragmentary axial section of a flask constituting a variant embodiment, the flask including a wiper member;

- Figures 16 to 18 are diagrammatic and fragmentary elevation views of closure caps constituting variant embodiments of the invention; and

25 - Figure 19 is a diagram showing an outer cap in isolation, the outer cap having an outside cross-section that is not circular.

The packaging and applicator device 1 shown in Figures 1 to 3 comprises a flask 2, made of glass or of
30 plastics material, for example, and an applicator 3 comprising a stem 4 provided at its bottom end with an applicator element 5 such as a brush, for example, and connected at its top end to a closure cap 6, which cap comprises a threaded portion 7 and a bottom ring 8.

35 By way of example, the stem 4 is hollow with a tuft of brush bristles being inserted therein, the visible

length ℓ of the bristles being 12 mm or longer, for example.

The stem 4 may be fixed inside the closure cap 6 in conventional manner by means of an insert which
 5 optionally also serves to close the flask in leaktight manner.

The threaded portion 7 is for screwing onto the neck 10 of the flask 2, the neck 10 being provided with a thread 11.

10 In accordance with an aspect of the invention, the ring 8 is initially secured to the threaded portion 7 when the applicator 3 is put into place for the first time on the flask 2.

As can be seen in Figure 6, the ring 8 may be made
 15 as a single piece together with the threaded portion 7 by molding a plastics material, the two portions being connected together by one or more breakable bridges of material 13. It can be seen in this figure that the bridges of material 13 are set back from the radially
 20 outer surface 19 of the ring 8 so as to avoid spoiling the appearance of the cap.

The ring 8 in the example described also presents at least one first portion in relief 15, e.g. a bead or teeth projecting from its radially inner surface 16, and
 25 the neck 10 of the flask 2 includes at its base at least one second portion in relief 18 arranged to enable the ring 8 to be snap-fastened onto the neck at the end of the initial engagement of the closure cap 6 on the flask 2.

30 In order to enable the ring 8 to be separated from the threaded portion 7 on unscrewing the closure cap 6, at least one anti-rotation portion in relief 20 is provided on the radially inner surface 16 of the ring 8 for co-operating with at least one complementary portion
 35 in relief 21 formed on the neck 10. The portions in relief 20 and 21 are arranged in such a manner as to enable the portion in relief 20 to go past the portion in

relief 21 on initial engagement of the closure cap 6, with the portions in relief 20 and 21 including for this purpose respective ramps 23 and 24, for example. The ramps are sloped so as to assist the portion in relief 20 in going past the portion in relief 21 in the screw-tightening direction of the closure cap, the portions in relief 20 and 21 subsequently preventing passage in the reverse direction.

When the user unscrews the closure cap 6 for the first time, the threaded portion 7 becomes separated from the ring 8 which remains permanently on the neck 10, and the user can then benefit from a visible length ℓ' of stem 4 that is sufficient to enable substance to be applied under good conditions to the fingernails, for example.

Naturally, the invention is not limited to the embodiment described above. Various modifications can be applied to the flask and to the closure cap.

For example, the closure cap can be made with a threaded portion 7 and a ring 8 which are connected together by bridges of material 13 that extend substantially radially, as shown in Figure 7, instead of extending substantially axially as shown in Figure 6.

The ring 8 and the threaded portion 7 can also be connected together other than by breakable bridges of material prior to the closure cap 6 being mounted on the flask 2.

By way of example, Figure 8 shows a variant embodiment in which the threaded portion 7 and the ring 8 are arranged to co-operate by mutual engagement with the ring 8 being provided, for example, with an annular rib 33 suitable for engaging in a shouldered housing 24 formed at the bottom end of the threaded portion 7.

A variant embodiment is described below with reference to Figures 9 to 12, in which variant the closure cap comprises an insert 40 and an outer cap 41 in which the insert 40 can be fixed.

The insert 40 has an inside thread 42 for enabling it to be screwed onto the neck 10, and a housing 43 enabling the top end 44 of the stem 4 to be fixed to the insert 40.

5 The stem carries a collar 45 for bearing against the end edge of the neck 10 when the insert 40 is screwed home, so as to close the flask 2 in leaktight manner.

10 On its radially inner surface, the outer cap 41 presents axial splines 48 for enabling the outer cap 41 to be fixed on the insert 40 by clamping, so that these two parts are then prevented from moving relative to each other.

15 The ring 8 in the example described is made integrally with the outer cap 41, being connected thereto by bridges of material 13 situated in line with the splines 48.

20 On its inner surface, the ring 8 presents axial splines 50 situated in line with the splines 48 and serving to bear against an enlarged portion 56 at the base of the neck 10 so as to clamp sufficiently tightly to cause the ring 8 subsequently to be prevented from turning relative to the flask 2.

25 After the flask 2 has been filled, the insert 40 and the stem 4 can be put into place so as to close the flask, as shown in Figure 10, and then the assembly constituted by the outer cap 41 and the ring 8 can be fitted onto the insert 40 until the insert 40 comes to bear against the inside of the top wall of the outer cap 41, with the splines 48 then pressing tightly against the insert 40.

30 The flask 2 provided with the closure cap is shown in Figure 11. In use, the user unscrews the threaded portion 7 which is made up of the outer cap 41 and the insert 40, while the ring 8 remains on the neck 10 of the flask by virtue of its splines 50 clamping onto the enlarged portion 56, as can be seen in Figure 12. On examining this figure, it will be understood that because

the ring 8 remains on the neck 10 of the flask 2, it is possible to increase the visible length of the stem by the equivalent of the height h of the ring 8.

It would not go beyond the present invention for the neck 10 to be made at its base with a surface that is not circularly cylindrical but that is frustoconical. By way of example, Figure 13 shows the flask 2 of the embodiment of Figures 1 to 5 with a frustoconical bottom portion 32 at the base of the neck 10 enabling clamping between the ring 8 and the flask 2 to be increased, for example.

The applicator element 5 can be constituted by something other than a brush, and by way of illustration, Figure 14 shows a flocked applicator element, e.g. for application on the lips.

The flask 2 can be made by assembling together one or more parts, and in particular it can include a wiper member 60 as shown in Figure 15. It can be seen in this figure that the flask 2 can comprise a body 61 having a part 62 fitted thereon to define the neck 10 of the flask and enabling the wiper member 60 to be supported, which member can be constituted, for example, by an axially split block of foam through which the applicator element 5 can be passed. In this example, the flask 2 may be filled with a substance P for application to the lips, for example.

The closure cap 6 can be made in a variety of shapes, as can be seen in Figures 16 to 18, and its outer section can be circular or otherwise, in particular it can be prismatic.

By way of illustration, Figure 19 shows an outer cap 41 of outer cross-section that is substantially square. This outer cap can be made with an internal circularly cylindrical wall 63 for enabling an insert to be fixed thereto, which insert carries the thread of the closure cap and also the stem.

Throughout the description, including in the claims, the term "comprising a" should be understood as being

synonymous with "comprising at least one" unless specified to the contrary.

CLAIMS

1. A packaging and applicator device comprising:
 - a flask presenting a threaded neck (10);
 - an applicator comprising:
 - 5 - a stem (4);
 - an applicator element (5) disposed at a first end of the stem;
 - a closure cap (6) supporting the stem at a second end opposite from the first, said closure cap including a threaded portion (7) arranged to screw onto the neck;

the device being characterized by the fact that the closure cap includes a ring (8) releasably connected to the threaded portion (7) and arranged to be capable of remaining secured to the neck during removal of the applicator.
2. A device according to claim 1, characterized by the fact that the threaded portion (7) comprises an insert
20 (40) and an outer cap (41).
3. A device according to claim 2, characterized by the fact that the ring (8) and the outer cap (41) are made integrally by molding a plastics material, the ring and the outer cap being connected together by at least one
25 breakable bridge of material (13).
4. A device according to any one of claims 1 to 3, characterized by the fact that the ring (8) presents at least one first portion in relief (15) enabling it to be
30 snap-fastened on at least one second portion in relief (18) made on the neck.
5. A device according to the preceding claim,
35 characterized by the fact that the second portion in relief (18) comprises an annular bead and the first portion in relief (15) comprises an annular bead or teeth

projecting from the radially inner surface (16) of the ring (8).

5 6. A device according to any one of the preceding claims, characterized by the fact that the ring (8) is made at least in part together with the threaded portion (7) by molding plastics material.

10 7. A device according to the preceding claim, characterized by the fact that the ring (8) is connected to the threaded portion (7) by breakable bridges of material (13).

15 8. A device according to claim 1 or 2, characterized by the fact that the ring is fitted on the threaded portion.

20 9. A device according to the preceding claim, characterized by the fact that the ring presents a portion in relief (33) enabling it to co-operate by mutual engagement with the threaded portion (7).

25 10. A device according to any one of the preceding claims, characterized by the fact that the neck includes at least one first anti-rotation portion in relief (21) and the ring includes at least one second anti-rotation portion in relief (20) arranged to co-operate with the first portion in relief so as to prevent the ring from turning relative to the neck during unscrewing of the closure cap leading to separation of the threaded portion
30 (7) from the ring (8).

35 11. A device according to the preceding claim, characterized by the fact that the first anti-rotation portion in relief (21) is arranged to enable the second anti-rotation portion in relief (20) to go past it on initial screw fastening of the closure cap on the flask.

12. A device according to the preceding claim,
characterized by the fact that at least one of the first
and second portions in relief includes a ramp (23; 24)
for making it easier for them to go past each other.

5

13. A device according to any one of the preceding
claims, characterized by the fact that the neck comprises
a cylindrical surface at its base.

10 14. A device according to any one of claims 1 to 12,
characterized by the fact that the neck comprises a
frustoconical surface (32) at its base, said surface
flaring towards the body of the flask.

15 15. A device according to any one of the preceding
claims, characterized by the fact that the flask is made
with a shoulder at the base of the neck.

16. A device according to any one of the preceding
20 claims, characterized by the fact that the flask is made
with a surface for coming into contact with the ring and
preventing it from moving.

17. A device according to any one of the preceding
25 claims, characterized by the fact that the ring includes
splines (50) on its inner surface.

18. A device according to any one of the preceding
claims, characterized by the fact that the flask is made
30 of glass.

19. A device according to any one of claims 1 to 13,
characterized by the fact that the flask is made of
plastics material.

35

20. A device according to any one of the preceding
claims, characterized by the fact that the capacity of

the flask is less than or equal to 10 ml, in particular less than or equal to 8 ml, better lying in the range about 7 ml to about 5 ml.

- 5 21. A device according to any one of the preceding claims, characterized by the fact that the stem (4) is visible when the applicator is withdrawn from the flask, and the closure cap is observed in a direction perpendicular to its axis.

10

22. A device according to the preceding claim, characterized by the fact that the visible length ($\ell + \ell'$) of the stem plus the applicator element is greater than or equal to 25 mm.

15

23. A device according to any one of the preceding claims, characterized by the fact that the applicator element is a brush, and by the fact that the visible length (ℓ) of the free portion of the bristles of the
20 brush is greater than or equal to 12 mm.

24. A device according to any one of the preceding claims, characterized by the fact that the flask contains a substance for application to the nails, in particular a
25 nail varnish.

25. A device according to any one of the preceding claims, characterized by the fact that the length of the stem is equal to the height of the neck to within 30%.

30

26. A device according to any one of the preceding claims, characterized by the fact that the length of the applicator element is equal to the height of the flask body, to within 30%.

35

27. A method of manufacturing a packaging and applicator device, the method comprising the following steps:

- screwing onto a flask (2) having a threaded neck (10) an applicator (3) comprising:

- a stem (4);
- an applicator element (5) disposed at a first
5 end of the stem;
- a closure cap (6) to which the stem (4) is secured at a second end opposite from the first, said closure cap presenting a threaded portion (7) arranged to be screwed onto the neck, the closure cap including at
10 its base a ring (8) releasably connected to the threaded portion (7), the neck and the ring presenting shapes arranged to co-operate so as to retain the ring on the neck when the threaded portion is unscrewed.

15 28. A method of manufacturing a packaging and applicator device, the method comprising the following steps:

- screwing onto a flask presenting a threaded neck (10) a threaded insert (40) to which the applicator element is secured;
- 20 - fitting an outer cap (41) on the insert, the outer cap being connected releasably to a ring (8), the outer cap and the ring remaining secured to each other when the insert is unscrewed, the neck and the ring presenting shapes arranged to co-operate so as to retain the ring on
25 the neck when the insert is unscrewed.

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"A packaging and applicator device"

- 10 The present invention provides a packaging and applicator device comprising:
- a flask presenting a threaded neck (10);
 - an applicator comprising:
 - a stem (4);
 - 15 - an applicator element (5) disposed at a first end of the stem;
 - a closure cap supporting the stem at a second end opposite from the first, said closure cap including a threaded portion arranged to screw onto the neck.
- 20 The closure cap includes a ring releasably connected to the threaded portion and arranged to be capable of remaining secured to the neck during removal of the applicator.

25

Figure: 9